

We claim:

1. A system for synchronizing a multimedia content stream signal, emanating from at least one multimedia source, for play through a plurality of output devices, wherein the output devices are connected to the multimedia source by wired connections and wireless connections; the system comprising:

plural output realms, including wired realms and wireless realms;

wherein said wired realms each include:

a wired realm transceiver;

10 a wired realm delay synchronizer, including a wired realm buffer for storing said multimedia content stream signal;

an output device connected to said wired realm delay synchronizer; and

15 a wired realm connection control processor (CTL) connected between said first wired realm transceiver and said wired realm delay synchronizer for exchanging medium access control (MAC) layer messages between said first wired realm transceiver and said wired realm delay synchronizer, and for determining a wired realm buffer delay for streaming the multimedia content stream signal from said wired realm buffer to an output device; and

wherein said wireless realms each includes:

a wireless realm transceiver;

20 a wireless realm delay synchronizer; including a wireless realm buffer for storing said multimedia content stream signal;

an output device connected to said wireless realm delay synchronizer and a wireless realm connection control processor (CTL) connected between said wireless realm transceiver and said wireless realm delay synchronizer for exchanging medium access control (MAC) layer messages between said wireless realm transceiver and said wireless realm delay synchronizer, and for determining a wireless realm buffer delay for streaming the multimedia content stream signal from said wireless realm buffer to an output device; and wherein said wireless realm buffer delay is transmitted to said wired realm CTL and wherein said wired realm buffer delay is transmitted to said wireless realm CTL.

10 2. The system of claim 1 wherein said wireless realm includes a second wireless transceiver for relaying the multimedia content stream signal to other wireless realms.

15 3. The system of claim 1 wherein said wired realm CTL includes a clock which operates at a known rate and wherein data is transmitted from said wired realm buffer at a rate taken from the group of rates consisting of the known rate, an integer multiple of the known rate and an integer divisor of the known rate.

4. A method of synchronizing a multimedia content stream for output to a plurality of wired and wireless output device in a network having plural realms, wherein each realm includes a CTL, the method comprising:

5 buffering the multimedia content stream in a first realm;

determining a buffer delay;

transmitting the buffer delay to all CTLs in all realms of the network; and

transmitting the multimedia content stream to all realms in the network.

5. The method of claim 4 wherein said determining includes setting a buffer size,  $T_D$ ,  
10 where  $T_D$  is the product of the packet length used in the network and the number of packets to be buffered.

6. The method of claim 5 which include determining the packet length and wherein  
said determining the packet length further includes inserting a coding and formatting delay factor  
15 into the packet length.

7. The method of claim 4 wherein said determining includes determining a buffer delay as a function of the buffer delays in all of the realms of the network.